

IME03-009



Application no. 10/767,275

Ifw

April 29, 2005

TO: Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Attn: Art Unit 2811 - Examiner Nadav, Ori

FROM: George O. Saile, Reg. No. 19,572  
28 Davis Avenue  
Poughkeepsie, N.Y. 12603

SUBJECT: Serial #: 10/767,275  
File Date: 01/29/2004  
Inventor: Ming Fu Li  
Examiner: Nadav, Ori  
Art Unit: 2811  
Title: CMOS Compatible Low Band Offset Double Barrier Resonant  
Tunneling Device

#### RESPONSE TO RESTRICTION REQUIREMENT

Dear Sir:

This is in response to the Restriction Requirement in the Office Action dated March 29, 2005. In that office action, restriction was required to one of the following Inventions under

#### CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents P.O. Box 1450, Alexandria, VA 22313-1450 on April 29, 2005.

Signature   
Stephen B. Ackerman, Reg. No. 37,761

Date: April 29, 2005

35 U.S.C. 121:

The inventions stated are:

I - Claims 1-24, drawn to a semiconductor device, classified in class 257, subclass 25, and

II - Claims 25-51, drawn to a process of making a semiconductor device, classified in class 438, subclass 22+.

Applicant provisionally elects to be examined the Invention described by the Examiner as Group I - Claims 1-24, drawn to a semiconductor device classified in Class 257, subclass 25. This election is made with traverse of the requirement under 37 C.F.R. 1.143 for the reasons given in the following paragraphs.

The Examiner is respectfully requested to reconsider the Requirement for Restriction in the Office Action.

The Examiner gives the reasons for the distinctness between Inventions I and II as (1) that the process as claimed can be used to make other and materially different product, or (2) the product as claimed can be made by another and materially different process (M.P.E.P. 806.05(f)). However, upon reading the process Claims against the product Claims one can readily see that the process Claims are directed to a method of forming "a resonant tunneling diode", and that the product claims are directed to "a resonant tunneling diode", and that it is necessary to obtain claims in both the process and product claim language. The process claims necessarily use the product and vice versa.

The field of search must necessarily cover both the process class/subclass 438/22+ and product class/subclass 257/25, in addition to other related classes and subclasses, to provide a complete and adequate search. The fields of search for Groups I and II are clearly and necessarily co-extensive. The Examiner's suggestion that "for example, in claim 25, instead of forming a quantum well layer and then a tunneling barrier layer on each side of said quantum well layer, forming first two spaced apart tunneling barrier layers and then forming a quantum well layer there between" is speculative and has nothing to do with the Claims as presented in this patent application.

Further, it is respectfully suggested that these reasons are insufficient to place the additional cost of additional patent applications upon the applicants. Therefore, it is respectfully requested that the Examiner withdraw this restriction requirement for these reasons.

Applicant was further required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable, and that currently no claim is generic.

The species stated are:

Embodiment of Figure 7, which reads on Claims 1-10,

Embodiment of Figure 8, which reads on Claims 11-17, and

Embodiment of Figure 9, which reads on Claims 18-24.

Applicant provisionally elects to be examined the species described by the Examiner as Group 1. Embodiment of Figure 7, which reads on Claims 1-10. This election is made with traverse of the requirement under 37 C.F.R. 1.143 for the reasons given in the following paragraphs.

The Examiner is respectfully requested to reconsider the Requirement for Election of Species given in the Office Action, because of the increased costs applicant would be forced to bear if the three species are separately examined. Furthermore, the field of search must necessarily cover all species, in addition to other related Classes and subclasses, to provide a complete and adequate search.

Withdrawal of the Election of Species Requirement, and allowance of the present Patent Application, is therefore respectfully requested.

Withdrawal of the Restriction Requirement, and allowance of the present Patent Application, is respectfully requested.

It is requested that should there be any problems with this response, please call the undersigned Attorney at (845) 452-5863.

Respectfully submitted,



Stephen B. Ackerman, Reg. No. 37,761